II. Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis, comprising a resilient body formed of materials varying in stiffness from a relatively stiff exterior portion to a relatively supple central portion; and concaval-convex elements at least partly surrounding the resilient body for retaining said resilient body in a position between the concaval-convex elements, and wherein said concaval-convex elements each comprise generally L-shaped supports, each support having a first concaval-convex leg, the first leg having an outer convex surface for engaging adjacent bone and a corresponding inner concave surface for retaining the resilient body, each support further having a second leg extending generally perpendicularly to the first leg [and adapted for affixation to adjacent bone structures].

2. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 1 wherein said resilient body comprises an annular gasket and a nuclear central portion.

3. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 2 wherein the gasket extends about the nuclear central portion [to enclose it within a thin layer].

4. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 3 wherein the gasket and [,] the nuclear central portion [, and the thin layer] are molded together as one piece.

5. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 1 further comprising cannulated screw means for attaching the concaval-convex element supports to adjacent bone structure.

6. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 5 wherein said cannulated screw means comprises a screw, and a screw anchor seatable within bone structure and adapted to threadably receive the screw.

7. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 6 wherein the screws terminate in the anchor.

8. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 6 wherein the anchor has an open end and the screw proceeds through the open end of the anchor and terminates in the bone of the vertebral body.

9. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 1 further comprising a seal member attached to the concaval-convex elements and surrounding said resilient body.

10. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 9 wherein said seal member comprises a flexible sheet material having a multiplicity of pores, the pores being from about 5 microns to about 60 microns in size.

11. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 10 further including sealing means applied to said flexible sheet material to render said flexible sheet material substantially impervious to the passage of any fluid.

12. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 11 wherein the sealing means is silicone.

13. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 9 wherein said concaval-convex elements and said seal member collectively surround said resilient body with a watertight seal.

14. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 2 wherein said annular gasket is relatively stiff and said nuclear central portion is relatively supple.

15. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis according to claim 1 wherein at least one of the second legs is hingedly attached to the respective first concaval-convex leg.

16. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis, comprising a resilient body formed of materials varying in stiffness from a relatively stiff exterior portion to a relatively supple central portion; and concaval-convex elements at least partly surrounding the resilient body between adjacent vertebral bodies for retaining the resilient body between adjacent vertebral bodies in a patient's spine, and wherein said concaval-convex elements each comprise generally L-shaped supports, each support having a first concaval-convex leg, the first leg having an outer convex surface for engaging adjacent bone and a corresponding inner concave surface for retaining the resilient body, each support further having a second leg extending generally perpendicularly to the first leg, wherein at least the second leg is constructed of titanium.

17. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis comprising a resilient nucleus, first and second rigid concaval-convex elements at least partly surrounding the nucleus, first

and second legs formed, respectively, with the first and second rigid concaval-convex elements, first and second means for affixing the respective legs to vertebral bodies adjacent the concaval-convex elements and nucleus, longitudinal ligament prosthesis means extending between the legs of the first and second concaval-convex elements to inhibit undesirable motion of the vertebral bodies relative to one another, and biodegradable washers positioned between the ligament prosthesis means and the respective legs.

18. (Previously Presented) [A vertebral] An intervertebral disc endoprosthesis comprising a rounded, resilient nucleus body convex on all surfaces and concaval-convex elements, each concaval-convex element being of relatively constant cross-sectional thickness and having an outer convex surface for engaging adjacent bone structure which has been milled to mate with the concaval-convex element outer convex surface, and a corresponding inner concave surface for engaging the rounded resilient body, wherein lubricant is provided between the nucleus body and the concaval-convex elements.

19. (Previously Presented) [A vertebral] An intervertebral endoprosthesis comprising an integral disc unit, said unit including a pair of confronting L-shaped supports having concaval-convex shapes in given legs, a resilient body interposed between the supports, and a flexible seal extending from one support to the other and sealing the resilient body within the supports inside a substantially watertight compartment.

20. (Previously Presented) The [vertebral] intervertebral disc endoprosthesis according to claim 19 wherein each support includes a groove about its circumference.

21. (Previously Presented) The intervertebral disc endoprosthesis according to claim 19, further comprising a plurality of said integral disc units.

22. (Previously Presented) The intervertebral disc endoprosthesis according to claim 13, wherein the seal member comprises a flexible sheet secured to each of the concaval-convex elements.